INDEX TO VOL. VII.

A.

A B C Sewage Process, 512.
Abich, Herr, on Crystallized Hail-stones, 122.
Aboriginal Tribes of the Nilgiri Hills, 386.
Aborigines of America and Extermination of, 244.
Abyssinia, Geology of, 119, 408.
Acclimatization of Half-hardy Plants, 100.
Acid, Hydrochloric, in the Stomach, 140.
Adams, W., Inaugural Address before the Society of Engineers, 267.
Addis, W. J., on Single Rail Permanent Way, 403.
Agassiz, Prof., on Reef-building Corals, 274.
Agricultural Prospects, 376.
—— Statistics, 243.
Agriculture, Belgian, 242.
—— Chronicles of, 87, 241, 376, 510.
Air, Compression of, 569.
—— Physical Analysis of, 400.
—— Pollution by Chemical Works, 330.
Airy, Prof., on Atmospheric Chromatic Dispersion, 97.
Airy and Simms, Messrs., New Eyepiece, 253.
Albolith, 399.
Albumen, Manufacture of, 105.
Algæ, Japanese, 105.
Algol, Variable Star, 521.
Alps, Climate of the, 413.
America, North, Extinct Reptilia and Batrachia of, 116.
American Eclipse Observations, 249.
Amylic Alcohol, Detection of, 398.
Anæsthetic, New, 261.
Andaman Islands, Ancient Kitchen Middens in the, 383.
Animal Life, Forms of, 363.
—— Physiology and Morphology, Chronicles of, 139, 290, 431, 572.
Animals and Plants, Distribution of, 255.
Anthropological Society, Annual Meeting, 248.
"Anvil" Protuberance of Eclipse of Aug. 7, 1869, 443.
Apatite, 281.
Arborescent Forms in Stones, 130.
Archæological Discoveries in Yorkshire, 247.
Archæology, Chronicles of, 90, 244, 379, 512.
—— International Congress of Pre-historic, 90.
Arctic Flora, 101.
Ashe, Commander, on the Total Eclipse of 1869, 251.
Aspidolite, a New Mica, 127.
Astronomy, Chronicles of, 94, 249, 389, 517.
Atkinson, J. C., Danish Element in the Population of Cleveland, 384.
Atmospheric Electricity and Recent Phenomena of Refraction, 229.
Aurora, on the, 250.
Australasia, Production of Gold in, 130.
Australia, Geology of, 272.
—— New Ganoid Fish from, 431.
Auvergne, Rocks of, 128.
Axinite, Constitution of, 127.
Aymara Indians of Bolivia and Peru, 516.

B.

Babington, Prof., on the Flora of Iceland, 255.
Bailly, M., Heat from the Moon, 138.
Bancroft, R. M., on the Renewal of King's Cross Station Roof, 268.
Barber, S., on Atmospheric Electricity and Recent Phenomena of Refraction, 229.
Barkly, Sir H., Flora of Round Island, Mauritius, 256.
Barrett, W. F., Light and Sound, Analogy of, 1.
Baryta, Caustic, 109.
Bathybius and the Coccoliths, 573.
Batrachia and Reptilia, Extinct, of North America, 116.
Baudrimont, A., Examination of Flame, 567.
—— E., Uses of Tinfoil, 531.
Bechi, Prof., Analyses of Beryl and Tourmaline, 418.

INDEX TO VOL. VII.

A.

A B C Sewage Process, 512.
Abich, Herr, on Crystallized Hail-stones, 122.
Aboriginal Tribes of the Nilgiri Hills, 386.
Aborigines of America and Extermination of, 244.
Abyssinia, Geology of, 119, 408.
Acclimatization of Half-hardy Plants, 100.
Acid, Hydrochloric, in the Stomach, 140.
Adams, W., Inaugural Address before the Society of Engineers, 267.
Addis, W. J., on Single Rail Permanent Way, 403.
Agassiz, Prof., on Reef-building Corals, 274.
Agricultural Prospects, 376.
—— Statistics, 243.
Agriculture, Belgian, 242.
—— Chronicles of, 87, 241, 376, 510.
Air, Compression of, 569.
—— Physical Analysis of, 400.
—— Pollution by Chemical Works, 330.
Airy, Prof., on Atmospheric Chromatic Dispersion, 97.
Airy and Simms, Messrs., New Eyepiece, 253.
Albolith, 399.
Albumen, Manufacture of, 105.
Algæ, Japanese, 105.
Algol, Variable Star, 521.
Alps, Climate of the, 413.
America, North, Extinct Reptilia and Batrachia of, 116.
American Eclipse Observations, 249.
Amylic Alcohol, Detection of, 398.
Anæsthetic, New, 261.
Andaman Islands, Ancient Kitchen Middens in the, 383.
Animal Life, Forms of, 363.
—— Physiology and Morphology, Chronicles of, 139, 290, 431, 572.
Animals and Plants, Distribution of, 255.
Anthropological Society, Annual Meeting, 248.
"Anvil" Protuberance of Eclipse of Aug. 7, 1869, 443.
Apatite, 281.
Arborescent Forms in Stones, 130.
Archæological Discoveries in Yorkshire, 247.
Archæology, Chronicles of, 90, 244, 379, 512.
—— International Congress of Pre-historic, 90.
Arctic Flora, 101.
Ashe, Commander, on the Total Eclipse of 1869, 251.
Aspidolite, a New Mica, 127.
Astronomy, Chronicles of, 94, 249, 389, 517.
Atkinson, J. C., Danish Element in the Population of Cleveland, 384.
Atmospheric Electricity and Recent Phenomena of Refraction, 229.
Aurora, on the, 250.
Australasia, Production of Gold in, 130.
Australia, Geology of, 272.
—— New Ganoid Fish from, 431.
Auvergne, Rocks of, 128.
Axinite, Constitution of, 127.
Aymara Indians of Bolivia and Peru, 516.

B.

Babington, Prof., on the Flora of Iceland, 255.
Bailly, M., Heat from the Moon, 138.
Bancroft, R. M., on the Renewal of King's Cross Station Roof, 268.
Barber, S., on Atmospheric Electricity and Recent Phenomena of Refraction, 229.
Barkly, Sir H., Flora of Round Island, Mauritius, 256.
Barrett, W. F., Light and Sound, Analogy of, 1.
Baryta, Caustic, 109.
Bathybius and the Coccoliths, 573.
Batrachia and Reptilia, Extinct, of North America, 116.
Baudrimont, A., Examination of Flame, 567.
—— E., Uses of Tinfoil, 531.
Bechi, Prof., Analyses of Beryl and Tourmaline, 418.

Becquerel, E., Electro-capillary Action, 570.
—— on Electro-motive Forces, 431.
Beer Scientifically and Socially Considered, by J. Samuelson, 299.
Belgian Agriculture, 242.
Beneden, Prof. Van, on Commensalism, 291.
Bennett, A. W., on Foreign Trees and Plants for English Gardens, 350.
Benzyl, Optical Properties of, 564.
Bert, M., Physiology of Sepia, 291.
Beryl, Analysis of, 418.
Bessemer Process, 557.
Birt, Mr., on Lunar Crater Plato, 394.
Blackfriars Bridge, 111.
Blake, E. W., Electric Spark Figures, 570.
Blanford, W. J., Geology of Abyssinia, 119, 408.
—— Origin of a Cyclone, 121.
Blast Furnaces, 192.
Blast-furnace Slag, Utilization of, 260.
Blood, Origin of Fibrin of the, 139.
Bloxam, T., Ignition of Sodium on Water, 106.
Blum, Dr., on Pseudomorphs, 127.
Boeke, J. D., Formation of Ozone by Combustion, 566.
Boiler Explosions, 536.
—— Incrustations, Prevention of, 109.
Boiling Liquids, Bumping of, 136.
—— Water, Best Method of, 568.
Bonney, Rev. T. G., Pholas-burrows in the Ormes Head, 118.
Bontemps, M., Action of Light on Glass, 286.
Bonwick, Mr., on the Origin of the Tasmanians Geologically considered, 246.
Botanic Garden at Brussels, 528.
Botanist, Leonardo da Vinci as a, 100.
Botany, Chair of, at College of Science, Dublin, 258.
—— Chronicles of, 99, 254, 394, 524.
Boulder Drift, on the, 275.
Boussingault, M., Colouring Matter of the Emerald, 417.
Brachiopoda, Italian Tertiary, 540.
—— Zoological Position of the, 572.
Brady, Sir A., Purification of Iron, 558.
Breidden Hills, Notice of, 116.
Bridges and Roofs, Wrought Iron, 72.
Bristow and Whitaker, Messrs., on the Formation of the Chesil Bank, 117.
British Conchology, or an Account of the Mollusca which now Inhabit the British Isles and Surrounding Seas, 79.
Brogden, Mr., Comparative Merits of Large and Small Trams for Colliery Use, 267.
Broughton, Mr., on the Cinchona, 258.
Browning, J., Automatic Spectroscope, 390, 424, 523.
—— Change of Colour, 253.
—— on Changes of Colour on Jupiter, 393.
—— Spectrum Micrometer, 254.
Bruce's, Mr., Mines Regulation Bill, 212.
Brush, Prof., on Durangite, a New Mineral, 126.
—— on Hortonolite, a New Mineral, 126.
—— Meteoric Stone, 126.
Bubbles of Mercury, 108.
Buchan, Mr., on the Mean Pressure of the Atmosphere and the Prevailing Winds over the Globe, 275.
—— Dr., Rainfall of South of Scotland, 416.
Budd, J. P., on the Removal of Silicon from Pig-Iron, 133.
Building, the Science of, 508.
Bull, Dr., Mistletoe on the Oak, 526.
Buckhard, P., Electrolytic Experiments, 430.
Burmah, Stone Implements from, 514.
Burt, Mr., Action of Coloured Light on the Mimosa Pudica, 285.
Busk, G., Caves of Gibraltar, 90.
—— Graphic Method of Odontology, 432.

C.

Cailletet, L., Law of Compression of Air, 569.
Cairns near Bangor, Opening, 384.
Calcining Kilns, 192.
Calcium and Zinc, Alloy of, 531.
Calvariæ, Ancient, 245, 247.
Calvert, Dr., Preparation of Nitrogen, 108.
Campbell, D. J., on Polygamy, its Influence in Determining Sex, and its Effects on the Growth of Population, 248.
Campin, F., on the Principles and Construction of Machinery, 406.
Canal, Suez, 110.
Cane, Mr., Formative Layer in Leaves of Plants, 524.
Cannibalism in Namur, 384.
Cappel, E., Influence of Heat on the Delicacy of Spectrum Reactions, 567.
Carbonic Acid, Combustion of Magnesium in, 107.
—— Decomposition of, by Plants, 103.
Carboniferous Limestone, Geology of, 115.

CARON, H., on "Rochage," 567.
—— Alloy of Zinc and Calcium, 531.
CARRINGTON, Mr., Description of his Observatory, 253.
Casting Metals under Pressure, 560.
Cavern of Bruniquel, 93.
Caves of Gibraltar, 90.
CAYLEY, Prof., on the Geometry of Solar Eclipses, 393.
Cells in Living Bodies, Peregrinations of, 437.
Cellulose, Solvent for, 261.
Cements, on, 113.
Cemetery at Frilford, Ancient, 386.
Cephalopoda, Chief Groups of the, 116.
Cervidæ, New Genus of, 292.
Chalchihuitls, Mexican, 280.
Channel Islands, Megalithic Structures of the, 149.
—— Pre-historic Monuments of the, 245.
Chatham Dockyard Extension, 535.
—— Island, Aborigines of, 248.
Cheesewring, threatened Destruction of the, 516.
Chemical Climatology, 416.
—— Works, Air Pollution by, 330.
Chemistry, Chronicles of, 105, 258, 398, 528.
Chesil Bank, Formation of the, 117.
CHESTER, Rev. G., Shell Implements and other Antiquities of Barbadoes, 245.
CHEVRIER, M., Action of Vapour of Sulphur on various Gases, 106.
Chloral, Hydrate of, 261.
—— the New Opiate, 575.
—— Preparation of, 108.
Chlorine and Sodium, 259.
Chlorophyll, Movements of, 256.
Chromatic Dispersion, Atmospheric, 97.
CHRONICLES OF SCIENCE:—
Agriculture, 87, 241, 376, 510.
Archæology (Pre-historic) and Ethnology, 90, 244, 379, 512.
Astronomy, 94, 249, 389, 517.
Botany and Vegetable Physiology, 99, 254, 394, 524.
Chemistry, 105, 258, 398, 528.
Engineering, Civil and Mechanical, 110, 265, 402, 532.
Geology and Palæontology, 114, 269, 406, 537.
Meteorology, 120, 275, 413, 545.
Mineralogy, 124, 280, 417, 550.
Mining and Metallurgy, 128, 282, 420, 552.
Physics, Light, Heat, and Electricity, 134, 285, 424, 563.
Zoology and Animal Physiology, 139, 290, 431, 572.
CHURCH, Prof. A. H., a New Fluorescent Substance, 563.
Cilium, Moving Force of a, 436.
Cinchona, Cultivation of, 258, 400.
—— in the West Indies, 526.
CLARKE, C. B., Cultivation of Cinchona, 258.
CLELAND, J., Significance of the Cranial Characters in Man, 143.
Cleveland, Metallurgical Industry of, 186.
Climate and Soil, Influence of, on Plants, 254.
—— Influence of Winds on, 276.
—— of Sitka, 122.
Climatology, Dove's, 277.
Climbing Plants, 257.
Coal, Breaking Down, 132.
—— Mining, Theory and Practice of, 556.
—— Supply, Future, 284.
Coccoliths and Bathybius, 573.
COLLAS, C., Electro-deposited Iron, 571.
Collodion Balloons, 401.
Combustion, Increase of Weight during, 137.
Comet of 1683, 393.
—— Discovery of a, 96.
—— Winnecke's, 523.
Comets, Theory of, 250.
Commensalism, 291.
Conchology, British, by J. Gwyn Jeffreys, F.R.S., 79.
Concrete, on, 113.
Conifers, Leaves of, 104.
Continental and English Intercommunication, 112.
Copal, Recent and Fossil, 397.
COPE, E. D., Extinct Batrachia and Reptilia of North America, 116.
Copper, Depositing, on Paper, &c., 139.
—— Extraction, 571.
—— Mining in England, 420.
—— Separating, 422.
—— Substitute for, in the Daniel Battery, 430.
Corals, on Reef-building, 274.
Cornish Minerals, 419.
Corona, Mr. Seabroke on the, 522.
—— Observations on the, 94.
—— Spectrum Observations on the, during Eclipse, 38.
—— and Zodiacal Light, 392.
COUMBARY, M., Meteorological Service in the Turkish Empire, 123.
Counter-pressure Steam-breaks, 268.
COUPIER, M., Manufacture of Fuchsine, 263.
COUTET, M., Manufacture of Disulphide of Carbon, 263.
Cranial Characters in Man, Significance of, 143.

Crookes, W., F.R.S., &c., Spiritualism viewed by the Light of Modern Science, 316.
—— a Recent Triumph of Synthetical Chemistry, 360.
—— on the Total Solar Eclipse of August, 1869, 28.
Cuckoo's Eggs, 142.
Cyclone, Origin of a, 121.
Cyclopædic Science simplified, 85.

D.

Dakyns, J. R., Geology of North Derbyshire and Yorkshire, 115.
Danish Element in the Population of Cleveland, 384.
Danvers, F. C., on the Survey of India, 448.
Dardistan, Visit to, 247.
Dartmoor, Pre-historic Monuments of, 516.
Darwin, Mr., and the French Academy, 574.
Daubié on Tinning Iron, 571.
Davidson, Mr., on Brachiopoda, 274.
Davis, Dr. B., and E. A. Welch, on the Aborigines of Chatham Island, 248.
Dawkins, B., Antiquity of the Iron Mines of the Weald, 92.
—— Flint Flakes and Flakes of Chert, 246.
Daylight, Chemical Intensity of, 425.
Dehérain, P. P., on the Evaporation of Water and Decomposition of Carbonic Acid by Plants, 103.
De la Rive, Prof., Magnetic Rotatory Power of Liquids, 569.
Delaurier, M., Concentrating and Utilizing the Heat from the Sun, 138.
Dellman, Dr., Electricity of Clouds, 415.
Delpino, Prof., on the Relation between the Distribution of Plants and of Animals, 255.
Demayes, Dr., Electro-magnetic Apparatus, 570.
De Mortuis, by H. Woodward, 341.
De Rance, C.E., Geology of Lake District, 118.
Des Cloiseaux, M., Crystals of Gadolinite, 127.
—— Optical Properties of Benzyl, 564.
Deshayes, M., Award of the Wollaston Gold Medal to, 275.
Deville, H. Ste. Claire-, Oxygen Dissolved on Fusion of Platinum, 287.
—— Reactions of Iron and Steam, 566.
Devonshire Association for the Advancement of Science, 497.
D'Hercourt, G., on Salt in the Atmosphere of Monaco, 262.
Diamagnetism, Tyndall on, 501.
Diamond, Researches on the, 426.
Diamonds, Discovery of, 282.
—— Origin of, 124.
Diatom Markings, 144.
Dinornis Contemporary with Man, 244.
Dinosauria, Prof. Huxley on, 273.
Discs of Stars, Measuring, 98.
Disinfectant, a New, 260.
Dispersion, Atmospheric Chromatic, 97.
Dolfus-Galline, M., Manufacture of Albumen, 105.
Double Star α Centauri, 522.
Dove, Prof., Klimatologische Beiträge, 277.
Draper, H. N., Ether as an Intoxicant, 260.
Drought of 1870, 510.
Duchartre, M., Turning of Plants towards the Light, 395.
Duckweed, Hibernation of, 102.
Duncan, Dr., on Corals, 270.
—— on the Geography of Western Europe during the Mesozoic and Cainozoic Periods, 274.
—— P. M., F.R.S., on Idiocy, 49.
—— on Insanity, 165.
Durangite, a New Mineral, 126.

E.

Earth, Fuller's, in the South-West of England, 68.
Earth's Crust, Determining Thickness of, 539.
Eckhard, Prof., on the Secretory Nerve of the Parotid Gland, 141.
Eclipse, Approaching Total Solar, 389, 477, 517, 519.
—— of August 7, 1869, the "Anvil" Protuberance, 443.
—— of Moon, 97.
—— Observations, on the American, 249.
—— Prominences, Spectroscopic Notes on the, 34, 39.
—— of Sun, of December 24th, 1870, 389, 477, 517, 519.
—— of the Sun, Partial, 97.
—— Total, of the Sun, of August, 1869, 94.
—— —— Solar, of August, 1869, on the. By W. Crookes, F.R.S., 28.
Eclipses, Geometry of Solar, 393.
—— Records of Chinese, 253.
Edible Fungi, 99.

EGERTON, Sir PHILIP, Two New Species of Gyrodus, 119.
EGGERTZ, M., on Sulphur in Iron and Steel, 259.
Eggs, Cuckoo's, 142.
Electric Currents in Muscle, 291.
—— Spark, Duration of, 570.
—— —— Figures, 570.
Electrical Decomposition of Water with Silver Poles, 138.
Electricity, Atmospheric, and Recent Phenomena of Refraction, 229.
—— —— at Haiti, 288.
—— Chronicles of, 138, 288, 429, 563.
—— in Plant Life, 525.
—— of Clouds, 415.
Electrification of Wine, 430.
Electro-Capillary Action, 570.
Electrolytic Experiments, 430.
Electro-magnetic Apparatus, 570.
Electro-motive Forces, on, 431.
Electroscopic Experiments, Cause of Error in, 429.
ELKINGTON, J., Copper Extraction, 571.
Emerald, Colouring Matter of the, 417.
EMMERLING, Dr., Action of Water on Glass and Porcelain, 106.
ENGELMANN, Dr. Th., on the Development of Gas in Protoplasm, 140.
Engineering, Chronicles of, 110, 265, 402, 532.
—— New York, Society of Practical, 113.
English and Continental Intercommunication, 112.
Epiboulangerite, 282.
Erosion, Intra-glacial, near Norwich, 120.
Esmarkite, 418.
Ether as an Intoxicant, 260.
Ethnology of Great Britain, 385.
Exhaustion of Soils, 378.
Explosive Powder, New, 129.
Eye-piece, New, 253.

F.

FARADAY, his Life and Letters, 232.
FAVRE, M., Occlusion of Hydrogen by Palladium, 105.
FEIL, Mr., on Heavy Flint Glass, 286.
Felspars, Constitution of, 417.
Fermentation, Pasteur's Views on, 291.
Ferns, Fertilization of, 395.
Fertilization, Cross, 394.
—— of Ferns, 395.
—— of Winter Flowering Plants, 100.
Festiniog Railway, 265.
Fibrin of the Blood, Origin of the, 139.
Fixed Stars, Distances of the, 252.
Flame, Examination of, 135, 567.
'Flint Chips,' By E. T. Stevens, 379.
—— Flakes in Somerset, 246.
—— Glass, Heavy, 286.
—— Implements, 383.
—— —— in the Drift of Norfolk and Suffolk, 120.
Flora, Arctic, 101.
—— Fossil, 406.
—— of Iceland, 255.
—— of Round Island, Mauritius, 256.
FLOWER, J. W., Flint Implements in the Drift of Norfolk and Suffolk, 120.
Flowers, Change in Colour of, 525.
Fluids in Crystals, Determination of, by Spectrum Analysis, 125.
Fluor Spar, &c., Reflexion of Heat from, 138.
Fluorescent Substance, New, 563.
Fluorine, Organic Compounds of, 528.
FORBES on Volcanoes, 538.
Forest, Petrified, near Cairo, 540.
—— Submerged, at Blackpool, 93.
Forestry, French Imperial School of, 60.
Formic Acid, Synthesis of, 400.
FOSTER, C. LE NEVE, Geology of North Derbyshire and Yorkshire, 115.
FOWLER, Mr., Manufacture of Oxygen, 107.
FOX, Col. L., Opening Cairns near Bangor, 384.
—— D. M., on the San Paulo Railway, 404.
FREEDEN, Herr Von, 'Norddeutsche Seewarte' for 1869, 278.
—— Weather Calendar for North-West Germany, 122.
French Imperial School of Forestry, 60.
FRIEDEL and LADENBURG, Drs., Organic Compounds of Silicium, 528.
Frilford, Ancient Cemetery at, 386.
Fuchsine, Manufacture of, 263.
Fuller's-earth in the South-West of England, 68.
Fungi, Alternation of Generation in, 257.
—— Edible, 99.
—— Parasitic, 397.

G.

Gadolinite, Crystals of, 127.
GAIFFE, M., Electro-plating with Nickel, 289.
Gaize, Uses of the Mineral, 567.
Galvanic Batteries, Improved, 571.
—— Battery, Leclanché, 288.
—— —— Zaliwski's, 288.
Ganoid Fish, from Australia, 431.
Gardens (English), Foreign Trees and Plants for, 350.
Gas in Protoplasm, Development of, 140.
—— Lighting Mines with, 131.

Gas Supply of Berlin, 287.
Gases, Occlusion of, 431.
Geissler and Vogelsang, MM., Determination of Fluids in Crystals by means of Spectrum Analysis, 125.
Gelatin, Magic-lantern Pictures on, 564.
Generation, Alternation of, in Fungi, 257.
Geography of Western Europe during the Mesozoic and Cainozoic Periods, 274.
Geological Change, the Rate of, 322.
—— Memoirs, 409.
—— Survey, Memoirs of the, 114.
Geology and Revelation, 238.
—— Chronicles of, 114, 269, 406, 537.
—— of Country around Shelve (Shropshire), 116.
Georges, M., Preservation of Meat, 261.
Gibraltar, Caves of, 90.
Gilman, W. S., on the "Anvil" Protuberance of the Eclipse of August 7, 1869, 443.
Girard, J., Colour of the Sea, 564.
Glaisher, Mr., on the Rainfall of Greenwich, 416.
Glass, Action of Light on, 286.
—— Action of Water on, 106.
—— Coloration of, by Sunlight, 134.
Glaucopyrite, on, 418.
Gold, Depositing, on Paper, &c., 139.
Gold-fields of Nova Scotia, 421.
Gold from Victoria, 130.
—— Production of, in Australasia, 130.
Göppert, Dr., on the Origin of Diamonds, 124.
Gore, G., F.R.S., Practical Scientific Instruction, 215.
Green, A. H., Geology of North Derbyshire and Yorkshire, 115.
Greenland, Lichens of, 102.
Gruner, L., on Phosphorus in Steel, 398.
Guy, Dr., Melting and Subliming Temperatures of Poisons, 426.
Gyrodus, two New Species of, 119.

H.

Haast, Dr., on the Contemporaneity of the Dinornis and Man, 244.
—— on some Stone Implements in New Zealand, 245.
Habit and Intelligence in connection with the Laws of Matter and Force, 75.
Haeckel, E., Zoological Position of Sponges, 432.
Hail-stones, Crystallized, 122.
Haiti, Atmospheric Electricity at, 288.
Hanbury, D., New Species of Jalap, 398.
Hann, Dr. J., on the Climate of the Alps, 413.
—— on the Winds of the Northern Hemisphere and their Influence on Climate, 276.
—— Relation of Temperature to Sea-level, 428.
Harmer, F. W., and S. V. Wood, on Intra-glacial Erosion, 120.
Harrison, J. T., on Railway Expenditure and Income, 267.
Heat, Apparent Paradox on, 136.
—— Chronicles of, 135, 287, 426, 563.
—— Emission of, from the Moon, 138.
—— of Sun, Concentrating, 138.
—— of Union of Carbon, Boron, and Silicon with Oxygen, 287.
—— Reflexion of, from Fluor Spar, &c., 138.
—— Relation of, to Work in Human Body, 290.
Herbarium of the British Museum, 527.
Hermann, Prof., Absence of Currents in Uninjured Inactive Muscle, 291.
Herschel, Sir J., on the Solar Spots, 391.
—— Lieut., on Dark Objects crossing the Solar Disc, 392.
—— A., on the November Meteors, 251.
Heynsius, Dr., Origin of the Fibrin of the Blood, 139.
Hibernation of Duckweed, 102.
Hippopotamus major, Molars of, in Kent's Cavern, 93.
Hodgson's Wire Tramway, 404.
Hofmann, Dr., Increase of Weight during Combustion, 137.
Holborn Viaduct, 112.
Home, M., on Rotatory Storms, 121.
Home Island, Vegetation of, 101.
Homogeny and Homoplasy, 576.
Hopkins, Mr., Determining Thickness of Earth's Crust, 539.
Horsford, Prof., Free Hydrochloric Acid in the Stomach, 140.
Hortonolite, a New Mineral, 126.
Hozeau, M. A., on Oxygenated Water, 398.
Hulke, J. W., F.R.S., Fossil Remains of Saurians, 119.
Hull, E., F.R.S., on the Triassic and Permian Rocks of the Midland Counties of England, 114.
—— Recent Observations on Underground Temperature, on the Causes of Variation in Different Localities, 207.
Huxley, Prof., Modifications of Mankind, 516.
—— on the Ancient Relations of Land and Water, 411.

XUM

Huxley, Prof., on Dinosauria, 273.
—— on the Ethnology of Great Britain, 385.
Hydraulic Machines for breaking down Coal, 132.
Hydrochloric Acid, free, in the Stomach, 140.
Hydrogen, Occlusion of, by Palladium, 105.
—— Peroxide of, 399.
—— Phenomena during the Combustion of, 137.
Hydrogenium Amalgam, 529.
—— Dr. Loew on, 400.
Hypophosphoric Acid, Use of, in Agriculture, 261.

I.

Ice in India, Production of, 427.
Iceland, Flora of, 255.
Ichthyodorulites, on two New, 118.
Idiocy, on, by P. M. Duncan, F.R.S., 49.
India, Rainfall of, 546.
—— Surveys of, 448, 458.
Insanity, on, 165.
Intercommunication, English and Continental, 112.
Iodide of Potassium, Decomposition of, in the Light, 135.
Iron and Steam, Reactions between, 566.
—— and Steel Institute, 561.
—— —— Patents for Manufacture of, 423.
—— —— Sulphur in, 259.
—— clad Ships, their Qualities, Performances, and Cost, 269.
—— Electro-deposited, 571.
—— making, Stages of, 186.
—— Mines of the Weald, Antiquity of the, 92.
—— Purification of, 557, 558.
—— Pyrites of Piedmont and Elba, 281.
—— Removal of Silicon from, 133.
Irrigation, Sewage, Principles and Methods of, 17.
Isinglass, on, 399.
Isoclase, New Mineral, 551.

J.

Jackson, J. W., on the Germination of Palms, 524.
Jagor, Dr., on the Natives of Naga, 247.
Jalap, New Species of, 398.
Janssen, Dr., Production of Ice in India, 427.
Japan, Coal in, 554.
Japanese Sea-weeds, 105.
Jeffreys, J. Gwyn, F.R.S., British Conchology, 79.
Jenkins, H. M., the Rate of Geological Change, 322.
Johnstone, K., Handbook of Physical Geography, 276.
Jones, Dr. H. Bence, F.R.S., Life and Letters of Faraday, 232.
Jouglet, A., Waterproofing Paper, 261.
—— on Explosions caused by Ozone, 399.
Jourdain, M., Irritability of Stamens, 396.
Jupiter, 97.
—— Changes of Colour on, 253, 393.
—— Visibility of, 251.

K.

Kent's Cavern, Literature of, 93.
Kernier, M., on the Influence of Climate and Soil on Plants, 254.
Kessler, M., Combustion of Magnesium in Carbonic Acid, 107.
Kilns, Calcining, 192.
King, W. R., Aboriginal Tribes of the Nilgiri Hills, 386.
Kirk, D., on Recent and Fossil Copal, 397.
Kirkwood, Prof., on Meteors, 391.
Kitai, Account of the Race, 246.
Kitchen Middens, Ancient, in the Andaman Islands, 383.
Knitting Machine, 536.
Kobell, Von, on a New Mica, 127.
Kolbe, H., Increase of Weight by Burning Bodies, 568.
Koords and Armenians, Account of the, 245.
Kosmann, on Apatite, 281.
Kowalevsky on the Kinship of Vertebrates and the Ascidian Molluscs, 142.
Krebs, G., Preparation of Oxygen, 529.

L.

Labiatæ, Peloria in, 104.
Laboratories in Amsterdam and London, 438.
Labyrinthodont, a New, 539.
Lallemand, M., Action of Sunlight on Sulphur, 285.
Land and Water, Ancient Relations of, 411.
Lankester, E. R., on Comparative Longevity, 373.

Lankester, Ray, Machairodus in Forest Beds of Norfolk, 118.
—— R., on the Cephalaspidæ of the Old Red Sandstone, 270.
—— Spermatophores in Annelids, 434.
Lardlay, J. W., Pre-historic Dwelling on the Coast of Haddingtonshire, 382.
Lartet, E., Reliquiæ Aquitanicæ, 381.
Lawes, Mr., on Exhaustion of Soils, 378.
—— Waste of Food during Respiration, 377.
Lead, Desilvering, 560.
—— Native, in Metaphyre, 124.
—— —— in Victoria, 124.
Leaves of Conifers, 104.
—— of Plants, Formative Layer in, 524.
—— Scorching, by Wind, 105.
—— Variegation of, 257.
—— Viridescence of, 104.
Le Chatelier's Plan of Using Counter-pressure Steam as a Break, 268.
Leclanché Battery, 288.
Leitner, Dr., Visit to Dardistan, and Account of the Shina Race, 247.
Lenz, R., Occlusion of Gases by Metals, 431.
Leonardo da Vinci as a Botanist, 100.
Le Sueur, Mr., Phenomena of Star η Argus, 390.
Leverrier's 'Atlas Météorologique,' 123.
—— Prof., Dismissal of, 249.
Levison, W. P., Improved Galvanic Batteries, 571.
Lévy, P., on Climbing Plants, 257.
Lewald, P., Action of Cold on Tin, 569.
Lichens of Greenland, 102.
Liebig, Prof., on Pasteur's Views on Fermentation, 291.
Life-buoys, illuminated, 426.
Light and Sound, an Examination of their Reputed Analogy, by W. F. Barrett, i.
—— Chronicles of, 134, 285, 424, 563.
—— Coloured, Action of, on Mimosa Pudica, 285.
—— Decomposition of Iodide of Potassium by, 135.
—— New Artificial, 286, 563.
—— of Coal Gas, relation of, to Volume consumed, 286.
—— on Glass, Action of, 286.
—— Turning of Plants towards, 395.
Lighting Mines, 131.
Limes and Cements, on, 113.
Liquids, Bumping of Boiling, 136.
Lithology and Mineralogy, 82.
Liver, Endings of Nerves in the, 141.
Lockyer, Mr., on the American Eclipse Observations, 249.
Loew, O., Action of Light on Sulphurous Acid, 564.
—— on Hydrogenium, 400.
—— on Hydrogenium Amalgam, 529.
Longevity, Comparative, 373.
Looking-glasses, Platinizing, 262.
Lubbock, Sir J., on Savages, 505.
Lucas and Cazin, on the Duration of the Electric Spark, 570.
Lunar Crater Plato, 394.

M.

Machairodus on Forest Beds of Norfolk, 118.
Madacasses Race, Affinities of the, 247.
Madder Colours, 531.
—— Root, Sugar in, 260.
Magne-crystallic Action, Tyndall on, 501.
Magnesium, Combustion of, in Carbonic Acid, 107.
Magnetic Rotatory Power of Liquids, 569.
Magnus, G., on Reflexion of Heat from Fluor Spar, &c., 138.
Malta, Water Supply of, 546.
Man, Cranial Characters in, 143.
—— Pre-historic, Remains of, in Argyleshire, 246.
Manganese in Milk, 530.
Manure Adulteration, 242.
Manures, Falsification of, 376.
Marchand, M., on Scorching of Leaves by Wind, 105.
Marey, Dr., Movements of Wings in Flight, 436.
Marriages, Consanguineous, 385.
Martin, M., Use of Hypophosphoric Acid in Agriculture, 261.
Martius, Dr., Preparation of Chloral, 108.
Masters, Maxwell J., Vegetable Teratology; an Account of the Principal Deviations from the usual Construction of Plants, 84.
Maumené, E. J., Optically Neutral Sugar, 564.
Meat, Preservation of, 261.
Meeham, T., on the Leaves of Conifers, 104.
Meenas of Central India, 516.
Megalithic Structures of the Channel Islands, 149.
Melaphyre, Native Lead in, 124.
Mendelssohn-Bartholdy, M., Preparation of Chloral, 108.
Mercury, Bubbles of, Floating on Water, 108.
"Mere," the, a New Zealand Weapon, 245.

Metallurgical Industry of Cleveland, 186.
Metallurgy, Chronicles of, 128, 282, 420, 552.
Meteoric Stone, on a, 126.
Meteorite, Fall of a, 419.
Meteorites, Analysis of, 280.
—— in India, 551.
Meteorological Instruments, Self-recording, Results of, 122.
—— Memoirs in France, 123.
—— Office, Weather Report of, 545.
—— Service in the Turkish Empire, 123.
Meteorology, Chronicles of, 120, 275, 413, 545.
—— of North-West Europe in 1868, 123.
—— Progress of, in France, 278.
Meteors, 391.
—— November, 96.
Mexican Chalchihuitls, 280.
Mica, a New, 127.
—— for Furnace Doors, 287.
Micrometer, Spectrum, 254.
Microscope, Graduating Diaphragm for, 425.
—— Mechanical Finger for the, 565.
Milky Way, New Theory of the, 253.
Millardet, M., on the Sensitiveness of the Mimosa, 396.
Millingen, Major, on Negro Slaves in Turkey, 248.
Millstone Grit, Geology of, 115.
Mimosa, Sensitiveness of the, 396.
Mineral Statistics of the United Kingdom, 128.
—— Veins of Country around Shelve (Shropshire), 116.
Mineralogy and Lithology, 82.
—— Chronicles of, 124, 280, 417, 550.
Mines Regulation Bill, 212, 420, 552.
Mining, Chronicles of, 128, 282, 420, 552.
——, Legislature on, 282.
—— Operations at Dudley, 554.
Mistletoe on the Oak, 526.
Mitrailleur, the, 532.
Mohn, Prof., on Sea Temperatures, 415.
Molloy, Rev. G., Geology and Revelation; or, the Ancient History of the Earth considered in the Light of Geological Facts and Revealed Religion, 238.
Molluscs, Ascidian, Kinship of Vertebrates and, 142.
Monaco, Atmosphere of, Salt in, 262.
Monkman, C., Archæological Discoveries in Yorkshire, 247.
Moon, Eclipse of, 97.
—— Emission of Heat from the, 138.
—— Heat from, 287.
Morphology, Chronicles of, 142, 290, 431, 572.
Morren, M. E., Variegation of Leaves, 257.
—— Variegation and Double Flowering, 396.
—— Researches on the Diamond, 426.
Mortars, on, 113.
Morton, G. H., Geology and Mineral Veins of Country around Shelve (Shropshire), 116.
—— Prof., Manufacture of Oxygen Gas, 264.
Müller, Dr. H., F.R.S., Preventing the Bumping of Liquids, 136.
—— M., on Hydrate of Chloral, 261.
Mure, Clamond, and Guiffe, MM., Thermo-electric Apparatus, 288.
Murphy, J. J., Habit and Intelligence in their Connection with the Laws of Matter and Force, 75.
Muscles, Starch in, 141.

N.

Nadorite, Analysis of, 551.
Naga (Philippine Islands), Natives of, 247.
Naphthaline, Utilization of, 259.
Nasse, M., Starch in Muscles, 141.
Naudin, M., Acclimatization of Palm Trees, 397.
Nebulæ, Distribution of the, 98.
Needles, Ancient, 381.
Negro Slaves in Turkey, 248.
Neptune, Spectrum of, 286.
Nerves, Endings of, in Liver, 141.
—— Trophic, 200.
Ness, W., on the Coal-field of Fife, 284.
Newman, M., Rendering Woven Tissues Impermeable to Water, 107.
—— Prof., on Cuckoo's Eggs, 142.
New York Society of Practical Engineering, 113.
New Zealand Weapon, 245.
Nickel, Electro-plating with, 288.
Nicklès, M., Preparation of Caustic Baryta, 109.
Nitrogen, Preparations of, 108.
Noble, Capt., on Planet Venus, 393.
Nova Scotia, Gold-fields of, 421.
—— Minerals of, 419.
Nursey, P. F., on English and Continental Intercommunication, 112.

O.

Ocean, Surface Life of the, 435.
Odontology, Graphic Method in, 432.
Ogle, Dr., on Cross-fertilization, 394.
Ohresser and Sepulchre, MM., Utilization of Blast-furnace Slag, 260.

Oldhamite, 281.
Oliver, Lieut. S. P., on the Megalithic Structures of the Channel Islands, 149.
Oppert, Dr., Description of the Kitai, 246.
Original Articles:—
Light and Sound; an Examination of their Reputed Analogy. By W. F. Barrett, F.C.S., 1.
On the Principles and Methods of Sewage Irrigation, 17.
The Total Solar Eclipse of August, 1869. By William Crookes, F.R.S., &c., 28.
Instruction in Science for Women, 43.
On Idiocy. By P. Martin Duncan, F.R.S., 49.
The French Imperial School of Forestry. By A. Pengelly, B.A., 60.
The Fuller's Earth in the South-West of England. By R. Tate, F.G.S., 68.
Megalithic Structures of the Channel Islands, their History and Analogues. By Lieut. S. P. Oliver, 149.
On Insanity. By P. Martin Duncan, F.R.S., &c., 155.
The Metallurgical Industry of Cleveland, 186.
On "Trophic Nerves." By G. Rolleston, F.R.S., 200.
Recent Observations on Underground Temperature, or the Cause of Variation in Different Localities. By E. Hull, F.R.S., 207.
Mr. Bruce's Mines Regulation Bill, 212.
On Practical Scientific Instruction. By G. Gore, F.R.S., 215.
Atmospheric Electricity and Recent Phenomena of Refraction. By S. Barber, 229.
Beer Scientifically and Socially Considered. By J. Samuelson, 299.
Spiritualism Viewed by the Light of Modern Science. By William Crookes, F.R.S., &c., 316.
The Rate of Geological Change. By H. M. Jenkins, 322.
Air Pollution by Chemical Works, 330.
De Mortuis. By H. Woodward, 341.
Foreign Trees and Plants for English Gardens. By A. W. Bennett, 350.
Original Articles—*continued.*
A Recent Triumph of Synthetical Chemistry. By William Crookes, F.R.S., &c., 360.
The Eclipse of August 7, 1869, "Anvil" Protuberance. By W. S. Gilman, jun., 443.
The Surveys of India. II. The Trigonometrical Survey (*with a Sketch-map*). By F. C. Danvers, A.I.C E., 448.
The Geological Survey of India (*with a Sketch-map*). By H. Woodward, F.G.S., 458.
Rainfall in England. By W. Pengelly, F.R.S., 467.
The Approaching Total Solar Eclipse. By R. A. Proctor, F.R.A.S., 477.
The Controversy on Spontaneous Generation; with Recent Experiments. By J. Samuelson, 484.
The Devonshire Association for the Advancement of Science, Literature, and Art, 497.
Osbornite, 281.
Other Worlds than Ours, 367.
Ott, Dr., on the Preservation of Timber, 263.
—— Utilization of Naphthaline, 259.
Owen, Prof., on the Lias Pterosauria and on Cetacean Remains, 271.
—— on Two New Ichthyodorulites, 118.
Oxland, Mr., Calcining Tin Ores, 423.
Oxygen Gas, Manufacture of, 107, 264, 529, 563.
Oxygenated Water, 398.
Ozone, Explosions caused by, 399, 529.
—— Formation of, by Combustion, 566.
—— Testing for, 135.

P.

Paine, Mr., on the Total Eclipse of 1869, 251.
Palæocoryne, on, 407.
Palæontographical Society, Monographs of, 269.
Palæontology, Chronicles of, 114, 269, 406, 537.
Palladium, Occlusion of Hydrogen by, 105.
Palm Trees, Acclimatization of, 397.
Palms, Germination of, 524.
Paper, Electro-deposition of Copper, Silver, and Gold on, 139.
Paquet, M., on Oil of Thymol, a New Disinfectant, 260.
Parotid Gland, Secretory Nerve of the, 141.

PATTERSON, Mr., on Collodion Balloons, 401.
"Pattoo-Pattoo," a New Zealand Weapon, 245.
PAUL, M., on Hydrate of Chloral, 261.
Peloria in Labiatæ, 104.
PENGELLY, A., The French Imperial School of Forestry, 60.
—— Mr., Literature of Kent's Cavern, 93.
—— W., Rainfall in England, 467.
PEPPER, J. H., Cyclopædic Science simplified, 85.
Permanent Way, Single Rail, 403.
Permian and Triassic Rocks of the Midland Counties, 114.
Perseus, the Cluster in, 97.
Peru, Primeval Monuments of, 512.
PETERSEN, Herr, Antimonial Sulphide of Silver, 125.
PETTENKOFFER, Prof., on the Relation of Heat to Work in the Human Body, 290.
—— on the Evaporation of Water from Plants, 524.
PETTIGREW, Dr., Movements of Wings in Flight, 436.
PEYRITSCH, J., on Peloria in Labiatæ, 104.
PFLÜGER, Prof., on the Endings of Nerves in the Liver, 141.
PHILIPP, Carbo-oxygen Light, 563.
PHILLIPS, Prof. J., Career of, 537.
—— on the Oxford Clay Belemnites, 270.
Pholas-burrows in the Ormes Head, 118.
Phosphorus in Steel, 398.
Phosphuretted Hydrogen, 106.
Photographic Operations during Total Solar Eclipse of August, 1869, 40.
Physical Observatory at St. Petersburg, 122.
Physics, Chronicles of, 134, 285, 424, 563.
Physiology, Animal, and Morphology, Chronicles of, 139, 290, 431, 572.
—— in Trinity College, Cambridge, 437.
—— Vegetable, Chronicles of, 99, 254, 394, 524.
PIGOTT, Dr. R., on Podura Scale Markings, 144.
PIHL, Dr. O., the Cluster in Perseus, 97.
PIKE, L. O., on the Psychical Elements of Religion, 247.
Plants, Acclimatization of Half-hardy, 100.
—— and Animals, Distribution of, 255.
—— Climbing, 257.
—— Deviations from the usual Construction of, 84.
Plants, Evaporation of Water and Decomposition of Carbonic Acid by, 103.
—— Fertilization of Winter Flowering, 100.
—— Influence of Soil and Climate on, 254.
—— Mimetic, 397.
—— Variegation and Double Flowering of, 396.
Platinizing Looking-glasses, 262.
Platinum, fused, Oxygen dissolved by, 287.
PLUMMER, Mr., on the Comet of 1683, 393.
Pneumatic Stamps, 131, 555.
Podura-scale Markings, 144.
Poisoning by Œnanthe Crocata, 526.
Poisons, Melting and Subliming Temperatures of, 426.
POLLACCI, E., Manganese in Milk, 530.
Polyargyrite, New Silver Ore, 126.
Polygamy, its Influence in Determining Sex and its Effects on the Growth of Population, 248.
Porcelain, Action of Water on, 106.
POSELGER, M., Damage to Trees, 107.
Potash, Extraction of, from Suint, 260.
POWELL, Mr., on the Double Star α Centauri, 522.
Prairie Vegetation, 527.
Precious Stones, Handbook of, 81.
Pre-historic Archæology, 244.
—— —— International Congress of, 90.
—— Dwelling on Coast of Haddingtonshire, 382.
Pressure, Mean, of Atmosphere and Prevailing Winds over the Globe, 275.
PRILLIEUX, M., on the Movements of Chlorophyll, 256.
—— on the Viridescence of Leaves, 104.
Proceedings of the Metropolitan Learned Societies :—
Anthropological, 247, 385, 517.
Astronomical (Royal), 97, 251, 392, 520.
Ethnological, 245, 384, 516.
Geological, 119, 272, 542.
Institution of Civil Engineers, 112, 266, 404.
—— Mechanical Engineers, 268, 405, 536.
PROCTOR, R. A., the Approaching Total Solar Eclipse, 477.
—— on the Corona and Zodiacal Light, 392.
—— on the Distribution of the Nebulæ, 98.
—— on Measuring the Discs of Stars, 98.
—— New Theory of the Milky Way, 253.

PROCTOR, R. A., Other Worlds than Ours, 367.
—— on Star-drift, 251.
—— on the Sun's Motion in Space, and on the Relative Distances of the Fixed Stars of various Magnitudes, 252.
—— Transit of Venus, 97, 253.
Prominences, Eclipse, Spectroscopic Notes on the, 34, 39.
Protoplasm, Development of Gas in, 140.
Pseudomorphs, on, 127.
Pyrometer, Novel, 428.

Q.

Quartz, Artificially Crystallized, 125.

R.

Rabdionite, New Mineral, 551.
Railway Accidents and Means of Preventing, 113.
—— Expenditure and Income, 267.
—— Festiniog, 265.
—— San Paulo, 404.
Railways, Light, 265.
Rainfall in England, 467.
—— of Greenwich, 416.
—— of South of Scotland, 416.
RAMMELSBERG, Dr., on Axinite, 127.
—— M., on Gadolinite, 282.
RANKINE, W. J. M., Inaugural Address before the Institution of Engineers in Scotland, 268.
READE, J. B., on Diatom Markings and Podura-scale Markings, 144.
Red Rain, Falls of, 547.
Redruthite, 117.
REED, E. J., Our Iron-clad Ships: their Qualities, Performances, and Cost, 269.
Refraction, Recent Phenomena of, and Atmospheric Electricity, 229.
REID, H., 'A Practical Treatise on Concrete, and how to make it; with Observations on the Uses of Cements, Limes, and Mortars,' 113.
REIMANN, Dr., on Albolith, 399.
Religion, Psychical Elements of, 247.
'Reliquæ Aquitanicæ,' 381.
Repertorium für Meteorologie, 278.
Reptilia and Batrachia, Extinct, of North America, 116.
Resolvability of Star Groups, 521.
Respiration, Waste of Food during, 377.
REVIEWS OF RECENT SCIENTIFIC WORKS.
'Wrought-iron Bridges and Roofs.' By W. C. Unwin, 72.
'Habit and Intelligence, in their Connection with the Laws of Matter and Force.' A Series of Scientific Essays. By J. J. Murphy, 75.
REVIEWS OF RECENT SCIENTIFIC WORKS —*continued*.
'British Conchology.' By J. G. Jeffreys, 79.
Schrauf's 'Handbook of Precious Stones,' 81.
Senft's 'Mineralogy and Lithology,' 82.
'Vegetable Teratology; an Account of the Principal Deviations from the usual Construction of Plants.' By Maxwell T. Masters, 84.
'Cyclopædic Science Simplified.' By J. H. Pepper, 85.
'Faraday, his Life and Letters.' By Dr. H. Bence Jones, 232.
'Geology and Revelations; or, the Ancient History of the Earth considered in the Light of Geological Facts and Revealed Religion.' By Rev. G. Molloy, 238.
Rolleston's 'Forms of Animal Life,' 363.
Proctor's 'Other Worlds than Ours,' 367.
Lankester's 'Comparative Longevity,' 373.
Tyndall's 'Diamagnetism and Magne-crystallic Action,' 501.
Sir John Lubbock 'On Savages,' 505.
'The Science of Building.' By E. W. Tarn, 508.
RICHARDS, Capt., F.R.S., on the Suez Canal, 405.
RIKATCHEFF, Lieut., on the Diurnal March of Temperature, 278.
RINET, M. G., Alternation of Generation in Fungi, 257.
Road Roller, Steam, 405.
ROBINSON, Dr., on Imitating the Transit of a Planet over the Sun, 252.
"Rochage," H. Caron on, 567.
Rocks of Auvergne, 128.
ROLLESTON, G., F.R.S., on Trophic Nerves, 200.
—— Forms of Animal Life, 363.
—— Ancient Cemetery at Frilford, 386.
Roman London, 516.
Roof, Renewal of, at King's Cross Station, 268.
—— Wrought-iron Bridges and, 72.
Rotatory Storms, 121.
ROUAULT, M., Award of Wollaston Donation Fund to, 275.
Round Island, Mauritius, Flora of, 256.
ROUSSELLE, M., Freezing of Wine, 428.
ROYER, E., Synthesis of Formic Acid, 400.

Rüdorff, F., Expansion of Water when Freezing, 427.
Russia, Meteorology in, 415.

S.

Saba, Island of, Sulphur Deposits in, 109.
Sabine, Sir E., Results of the First Year's Performances of the Photographically Self-recording Instruments at Kew, 122.
Sadebeck, Dr., Zinc-blende, 127.
Safety Cages, 556.
—— Valve, Improved, 537.
Salt in the Atmosphere near the Sea, 262.
Samuelson, J., on Beer Scientifically and Socially Considered, 299.
—— on Spontaneous Generation, 484.
Sars Fund, the, 294.
Saturn, 97, 251.
—— Occultation of, 521.
Saunders, W. W., on Mimetic Plants, 397.
Saurians, Fossil Remains of, 119.
Savages, Sir J. Lubbock on, 505.
Schinz, M., on a New Artificial Light, 286.
Schlœsing, Ch., Clarifying Muddy Water, 532.
Schmitt, R., Organic Compounds of Fluorine, 528.
Schrauf, Dr. A., Handbuch der Edelsteinkunde (Handbook of Precious Stones), 81.
Schwartz, Dr. H., Preparation of Phosphuretted Hydrogen, 106.
Science, Instruction in, for Women, 43.
Scientific Instruction, Practical, 215.
Scorching of Leaves by Wind, 105.
Scoutettin, M., on the Electric Improvement of Wine, 289, 430.
Scrope, Mr., on the Origin of certain Terraces, 118.
Sea, Colour of the, 564.
Sea-weeds, Japanese, 105.
Secchi, Rev. F., Spectrum of Neptune, 134, 286.
Secretory Nerve of the Parotid Gland, 141.
Seeley, Prof., on So-called Hydrogenium and Ammonium Amalgams, 529.
Seelhorst, Dr., Phenomena observed during the Combustion of Hydrogen Gas, 137.
Senft, Dr. F., Lehrbuch der Mineralien und Felsartenkunde (Mineralogy and Lithology), 82.
Sepia, Physiology of, 291.
Sepulchre and Ohressir, MM., Utilization of Blast-furnace Slag, 260.
Sewage Irrigation, Principles and Methods of, 17.
—— Utilization of, 378, 241.
Sexual Forms, Animals presenting Two Distinct, 293.
Sharpey, Dr., Memorial to, 144.
Shell Implements of Barbadoes, 245.
Shina Race, on the, 247.
Silica, Crystallized, 125.
—— Hydrated, Discovery of, 429.
Silicon, Removal of, from Pig-iron, 133.
—— Organic Compounds of, 528.
Silliman, Prof. B., on Relation of Light produced to Volume of Coal Gas consumed, 286.
—— on Woolongongite, a New Hydrocarbon Mineral, 126.
Silver, Antimonial Sulphide of, 125.
—— Decomposition of Water with Poles of, 138.
—— Depositing on Paper, &c., 139.
Simlaite, on, 419.
Simms and Airey, Messrs., New Eyepiece, 253.
Simonyite, on, 419.
Sitka, Climate of, 122.
Slag of Blast Furnaces, Utilization of, 260.
Slavery in Turkey, 248.
Smith, Dr. R. Angus, F.R.S., Chemical Climatology, 416.
—— S., on a Circle of Stones in Westmoreland, 245.
—— W. G., Poisoning by Œnanthe Crocata, 526.
Snake, Fossil, in Greece, 539.
Sodium and Chlorine, 259.
—— Ignition of, on Water, 106.
Soil and Climate, Influence of, on Plants, 254.
Solar Disc, Dark Objects Crossing, 392.
—— Eclipse, on the Total, of August, 1869. By W. Crookes, F.R.S., 28.
—— Physics, Zöllner on, 518.
—— Spots, 523.
—— —— Periodicity of the, 391, 393.
Sorby, H. C., Spectra of Zirconium and Uranium, 259.
Souberain, J. L., on Isinglass, 399.
Sound and Light, an Examination of their Reputed Analogy. By W. F. Barrett, 1.
Spectra, Remarkable, of Compounds of Zirconium and Uranium, 259.
Spectroscope, Automatic, 390, 424, 523.
—— New Form of (Zöllner's), 96.
Spectrum Analysis applied to Determination of Fluids in Crystals, 125.
—— of the Corona, 94.

Spectrum of Neptune, 134.
—— Reactions, Influence of Heat on Delicacy of, 567.
SPENCE, P., Raising Temperatures by Steam, 136.
—— Separating Copper from its Ores, 422.
Spermatophores in Annelids, 434.
Spiritualism Viewed by the Light of Modern Science. By W. Crookes, F.R.S., &c., 316.
Sponges, New, 573.
—— Zoological Position of, 433.
Spontaneous Generation, 484.
SPRING, M., Cannibalism in Namur, 384.
SQUIER, E. G., on the Chalchihuitl of Mexico, 280.
Staffelite, on, 281.
Stamens, Irritability of, 396.
Stamps, Pneumatic, 131.
Starch in Muscles, 141.
Star-drift, on, 251.
—— Eta Argûs, Phenomena of, 390.
Stars, Measuring Discs of, 98.
Statistics, Agricultural, 243.
Steam and Air Engines, 533.
—— Raising Temperatures by, 136.
Steel Casting, 559.
—— and Iron, Patents for Manufacture of, 423.
—— —— Sulphur in, 259.
STEIN, Dr. W., Madder Colours, 531.
Stereographic Projection, 523.
STEVENS, E. T., "Flint Chips," 379.
STEWART, Dr. B., on the Aurora, 250.
STOLICKZA, Dr., Ancient Kitchen Middens of the Andaman Islands, 383.
STÖLZEL, Dr., Substitute for Copper in the Daniel Battery, 430.
STONE, Mr., on the Transit of Venus, 252.
—— Implements in New Zealand, 245.
Stones, Circle of, in Westmoreland, 245.
—— Precious, Handbook of, 81.
STONEY, B. B., 'The Theory of Strains in Girders and similar Structures,' 113.
Storm Warnings, 548.
Storms, Rotatory, 121.
Strains in Girders, 113.
STRASBURGER, Dr. E., on the Fertilization of Ferns, 395.
Structure of Crinoidea, Cystidea, and Blastoidea, 541.
STRUVE, Peroxide of Hydrogen in Air, 399.
STRÜVER, Dr. G., on the Iron Pyrites of Piedmont and Elba, 281.
Suez Canal, 110.
—— —— Report on the, 405.
SUFFOLK, W. T., on Boiling Water, 568.
Sugar in Madder Root, 260.
Sugar, Optically Neutral, 564.
Suint, Extraction of Potash from, 260.
Sulphide of Carbon, Manufacture of, 263.
—— —— Solid, 428.
Sulphur, Action of Sunlight on, 285.
—— Action of Vapour of, on various Gases, 106.
—— Deposits, 109.
—— in Steel and Iron, Estimation of, 259.
Sulphurous Acid, Action of Light on, 564.
Sun, Eclipse of, of Dec. 24, 1870, 389.
—— Partial Eclipse of the, 97.
—— Total Eclipse of the, August, 1869, 94.
Sun's Heat, Concentrating, 138.
—— Motion in Space, 252.
Sunlight, Action of, on Sulphur, 285.
—— Coloration of Glass by, 134.
Survey, Memoirs of the Geological, 114.
SWINHOE, R., New Genus of Cervidæ, 292.
Synthetical Chemistry, a Recent Triumph of, 360.

T.

TAIT, Prof., Theory of Comets, 250.
TARN, E. W., on the Science of Building, 508.
Tartaric Acid, Prevention of Mouldiness, 531.
Tasmanians, Origin of the, 246.
TATE, Ralph, on an Incised Rock on the Iguana, 248.
—— on the Fuller's-earth of the South-West of England, 68.
Telescopes, Early, 522.
TEMPEL, M., Discovery of a Comet, 96.
Temperature, Diurnal March of, 278.
—— Observations on Underground, 207.
—— Relation of, to Sea Level, 428.
—— of the Sea, 415.
Teratology, Vegetable; an Account of the Principal Deviations from the usual Construction of Plants, 84.
Thames Embankment, 534.
Theory of Strains in Girders, 113.
Thermo-electric Apparatus, 288.
THOMPSON, A. M., Mineralogical Guide, 419.
—— G. C., on Consanguineous Marriages, 385.
Thymol, Oil of, a New Disinfectant, 260.
Timber, Preservation of, 263.
Tin, Action of Cold on, 569.
—— Foil, Uses of, 531.
—— Mines in Cornwall, 129.
—— Mining in England, 420.

Tin Ores, Calcining, 423.
Tinning Iron, 571.
Tissues, Woven, Rendering Impermeable, 107.
Total Eclipse of 1869, 251.
Tourmaline, Analysis of, 418.
—— Constitution of, 127.
Trams for Colliery Use, Comparative Merits of Large and Small, 267.
Tramways, Street, 402.
Transit of Venus, 95, 252.
—— of Planet over the Sun, Imitating the, 252.
Trees along Promenades, Damage to, 107.
—— and Plants, Foreign, for English Gardens, 350.
Triassic and Permian Rocks of the Midland Counties, 114.
Troost and Hautefeuille, MM., Heat of Union of Carbon, Boron, and Silicon with Oxygen, 287.
Trophic Nerves, 200.
Tumuli near Honiton, Devon, 93.
Tunnel under the Thames, 265.
Tyndall, J., F.R.S., on Diamagnetism and Magne-crystallic Action, 501.

U.

Underground Temperatures, Observations on, 207.
Underhold, E., Prevention of Boiler Incrustations, 109.
Unwin, W. C., Wrought-iron Bridges and Roofs, 72.
Uranium and Zirconium, Spectra of, 259.

V.

Vegetable Physiology, Chronicles of, 99, 254, 394, 524.
—— Teratology, 84.
Vegetation of Howes Island, 101.
Venus, 97, 393.
—— Transit of, 95, 97, 252, 253.
Vertebrates and Ascidian Molluscs, Kinship of, 142.
Viaduct, Holborn, 112.
Victoria, Minerals from, 550.
—— Gold from, 130, 422.
Vignoles, C. B., F.R.S., Inaugural Address of, before the Institution of Civil Engineers, 266.
Viridescence of Leaves, 104.
Voelcker, Dr., Falsification of Manures, 376.
Vogel, M., Change in Colour of Flowers, 525.
Vogelsang and Geissler, MM., Determination of Fluids in Crystals by Means of Spectrum Analysis, 125.
Volcanoes, Forbes on, 538.

W.

Wake, Mr., on the Race Affinities of the Madacasses, 247.
Wanklyn, J. A., Sodium and Chlorine, 259.
Water, Action of, on Glass and Porcelain, 106.
—— Clarifying Muddy, 532.
—— Evaporation of, from Plants, 103, 524.
—— Expansion of, when Freezing, 427.
Waterproof Paper, 261.
Wartha, Dr. von, Solid Disulphide of Carbon, 428.
Weald, Antiquity of Iron Mines of the, 92.
Weather Calendar for North-West Germany, 122.
—— of Gibraltar, 520.
Weesky, Dr., on Epiboulangerite, 282.
Weight, Increase of, during Combustion, 137, 568.
Weston, Mr., on the Lunar Apennine Range, 253.
Wheat-flies, 511.
Wheatstone, Sir C., on a Cause of Error in Electroscopic Experiments, 429.
Whitaker and Bristow, Messrs., Formation of the Chesil Bank, 117.
Whymper, E., Fossil Flora, 406.
Wild, Prof., Physical Observatory at St. Petersburg, 122.
—— 'Repertorium für Meteorologie,' 278.
Williams, C., on City Transit, 405.
—— Railway Accidents and Means of Preventing, 113.
—— J., Chinese Records of Eclipses, 253.
Wiltshire, Rev. T., on the Chief Groups of the Cephalopoda, 116.
—— Freezing of, 428.
Winchell, Prof., on the Origin of Prairie Vegetation, 527.
'Wind in its Circuits,' 548.
Winds and Currents, Physical Geography in relation to, 549.
Winds, Influence of, on Climate, 276.
—— prevailing over the Globe, 275.
Wine, Electric Improvement of, 289.
Wings, Movements of, in Flight, 436.
Winkler, Dr. C., Bleaching Wood-pulp, 108.
Wire Tramway, 404.

Wöhler, Prof., Discovery of Diamonds, 282.
Wolf, Prof., on the Solar Spot Period, 393.
Women, Instruction in Science for, 43.
Wood, S. V., on the Boulder Drift, 275.
—— and F. W. Harmer, on Intra-glacial Erosion, 120.
—— W. H., Preventing Mouldiness in Tartaric Acid, 531.
Wood-pulp, Bleaching, 108.
Woodward, H., De Mortuis, 341.
—— Geological Survey of India, 458.
Woolongongite, a New Hydro-carbon Mineral, 126, 419.
Wrought-iron Bridges and Roofs, 72.

Y.

Yoredale Rocks, Geology of, 115.

Z.

Zaliwsky's Galvanic Battery, 288.
Zantedeschi, M., on Heat from the Moon, 287.
Zentmayer, Mr., Graduating Diaphragm for Microscopes, 425.
—— Mechanical Finger for the Microscope, 565.
Zepharovichite, on, 419.
Zerrenner, Dr., Native Lead in Melaphyre, 124.
Zinc and Calcium, Alloy of, 531.
Zinc-blende, Examination of, 127.
Zirconium and Uranium, Spectra of, 259.
Ziurek, Dr., on the Gas Supply of Berlin, 287.
Zodiacal Light, 392.
—— —— Theory of the, 250.
Zöllner, Dr., on Solar Physics, 518.
Zöllner's Spectroscope, 96.
Zoological Literature, Record of, 144.
Zoology, Chronicles of, 139, 290, 431, 572.
—— New Manual of, 574.

END OF VOL. VII.

LIST OF PLATES IN VOLUME VII.

	PAGE
Correlation of Colour and Music (Chromolithograph)	1
The Total Solar Eclipse of 1869 (Chromolithograph)	28
L'Ancresse Cromlech	149
L'Autel Déhus, and Creux des Fées Cromlechs	155
Tunnery at Allsopp and Sons' Brewery	299
Mash Tun at ditto	307
Fermenting Room at ditto	309
The Anvil Protuberance. Eclipse of August, 1869 (Chromolithograph)	445
Sketch-map of the Trigonometrical Survey of India	448
Sketch-map of the Geological Survey of India	458
The Approaching Total Solar Eclipse	477
Organisms found in Distilled and Rain Water, and in Infusion of Orange-juice	484

LIST OF WOODCUTS IN VOLUME VII.

Diagram showing Waves of Light and Sound	4
Apparatus of Curved Reflectors for exhibiting Action of Sensitive Flame	12
Sewage Irrigation (Vignette)	17
Sewage Irrigation: Sluice	25
Ditto Pane and Gutter	25
Ditto Catchwork	26
Ditto Ridge and Furrow	26
Solar Eclipse of August, 1869. Fig. 1	33
Ditto ditto „ 2	34
Ditto ditto „ 3	35
Ditto ditto „ 4	38
Sections of Rose Bridge and Duckinfield Collieries	210
Germination of Malt	302
The Hop Plant, parts of	304
Cells of the Yeast Plant	305
Stirrer of Mash Tun	307
The Swan-neck Pipe for the Escape of Carbonic Acid Gas in Beer	311
Abies Nobilis	355
Entrance to Cave for Killarney Fern in Rock Garden	359
Graduating Diaphragm for the Microscope	425
Rose Protuberance as forecasted. Eclipse August 7, 1869	444
Solar Disc. Eclipse, August 7, 1869	444
Ditto ditto	445
Diagram showing spots. Eclipse, August 7, 1869	446
Casella's Apparatus for Catching Rain	474
Mechanical Finger for the Microscope	565

London: Printed by W. Clowes & Sons, Stamford Street and Charing Cross.